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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,261	06/16/2006	Arne Simonsson	4147-173	9086

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EXAMINER	
BALAOING, ARIEL A	

ART UNIT	PAPER NUMBER
2617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/583,261	SIMONSSON ET AL.	
	Examiner	Art Unit	
	ARIEL BALAOING	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *36-70* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *36-70* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 July 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement filed 06/16/2006 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein with regards to the cited foreign patent document has not been considered.

Claim Objections

3. Claims 51-57 are objected to because of the following informalities: Claims 51-57 recite the limitations "an access" or "the access". These limitations should read "an access network" or "the access network" in order to be consistent with the terminology of the parent claim. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 48-50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 48-50 are dependent on canceled Claim 5. The rejections below assume that the dependency is to new claim 40.

6. Claim 49 recites the limitation "the received wideband signal strength" in line 3 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 36-39, 45, 51, 52, 54, 56, 58-62, and 68-70 are rejected under 35 U.S.C. 102(b) as being anticipated by VADGAMA (US 2003/0083069).

Regarding claim 36, VADGAMA discloses a method of selecting an access network from among one or more access networks capable of providing service to a mobile communication station (abstract; cell selection), the method comprising: determining a radio quality [**signal quality**] from the terminal to each access network, determining, for each access network, a utilization factor [**congestion/load**] for at least one node [**base station/cell**], determining, for each access network, a user perceived data quality [**threshold/selection**] , based on said determined utilization factor and said determined radio quality for the access network, and selecting at least one of said access networks, based on the determined user perceived quality (paragraph 20, 24, 29, 48-52; base station selection based on measured congestion and signal quality).

Regarding claim 37, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses further comprising, estimating a radio link bitrate .mu. for each access, based on the determined radio quality q, and determining the user perceived data quality, based on the determined utilization factor and the estimated radio link bitrate (paragraph 21, 104; bit error rate, signal to interference ratio).

Regarding claim 38, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses further comprising estimating the radio link bitrate according to:.mu.=g(q)where g is an access specific function (paragraph 21, 104; bit error rate and signal to interference ratio is calculated as a specific function).

Regarding claim 39, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses wherein the radio link quality q is represented by at least any one of pilot signal strength, beacon signal strength, Ec/N0, SIR, C/I, bit error rate, block error rate, and packet error rate (paragraph 21, 104).

Regarding claim 45, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses further comprising representing said user perceived quality with a data bit rate for the access network (paragraph 21, 104; bit error rate, signal to interference ratio).

Regarding claim 51, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses further comprising

selecting the at least one access before the terminal is connected to an access (paragraph 20, 24, 29, 48-52).

Regarding claim 52, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses wherein said accesses utilize the same type of radio access technology (Figure 1, 2; paragraph 71, 72).

Regarding claim 54, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses wherein said accesses belong to the same network (Figure 1, 2; paragraph 71, 72).

Regarding claim 56, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses wherein said accesses belong to the same operator (Figure 1, 2; paragraph 71, 72; operator is seen as the same network).

Regarding claim 58, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses wherein the one or more accesses include at least one of WCDMA, CDMA2000, GSM, WLAN or GPRS (paragraph 71-73, 167).

Regarding claim 59, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses wherein said node comprises at least one of an access point, and base station (paragraph 20, 24, 29, 48-52).

Regarding claim 60, VADGAMA discloses a system enabling selection of an access network from among one or more access networks capable of providing service to a mobile communication station [**mobile unit**], comprising: means for determining a radio quality [**signal quality**] from the terminal to each access network, means for determining, for each access network, a utilization factor [**congestion/load**] for at least one access point [**base station/cell**], means for determining, for each access network, a user perceived data quality [**threshold/selection**], based on said determined utilization factor and said determined radio quality for the access network, and means for selecting at least one of said access networks, based on the determined user perceived quality (paragraph 20, 24, 29, 48-52; base station selection based on measured congestion and signal quality).

Regarding claim 61, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses wherein said determining means further comprise means configured to estimate a radio link bitrate .mu. for each access, based on the determined radio quality q, and said determining means are further configured to determine the user perceived data quality, based on the determined utilization factor and the estimated radio link bitrate (paragraph 21, 104; bit error rate, signal to interference ratio).

Regarding claim 62, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses wherein said estimating means are configured to estimate the radio link bitrate according

to:.mu.=g(q)where g is an access specific function (paragraph 21, 104; bit error rate and signal to interference ratio is calculated as a specific function).

Regarding claim 68, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses wherein said radio quality determining means are further configured to estimate .mu. based on at least one of pilot signal strength, beacon signal strength, Eb/N0, SIR, and C/I (paragraph 21, 104).

Regarding claim 69, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses wherein said node comprises at least one of an access point, and base station (paragraph 20, 24, 29, 48-52).

Regarding claim 70, VADGAMA discloses A mobile communication station [**mobile station**] capable of receiving service from one or more access networks, comprising: means for determining a radio quality [**signal quality**] from the terminal to each access network, means for determining, for each access network a utilization factor [**congestion/load**] for at least one node, means for determining for each access network, a user perceived data quality [**threshold/selection**], based on a utilization factor for the access network, and means for selecting at least one of said access networks, based on the determined user perceived quality and the radio quality (paragraph 20, 24, 29, 48-52; base station selection based on measured congestion and signal quality).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over VADGAMA (US 2003/0083069) in view of TENNISON et al (US 2002/0046292).

Regarding claim 46, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose

further comprising representing said user perceived quality with an active session data throughput for the access network. In a similar field of endeavor, TENNISON discloses representing a user perceived quality with an active session data throughput for an access network (paragraph 19). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify VADGAMA to include the teachings of TENNISON, since such a modification could be used to determine a network selection based on specified and configurable rules.

13. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over VADGAMA (US 2003/0083069) in view of ABRAHAM et al (US 2003/0156580 A1).

Regarding claim 47, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose wherein said data bitrate comprises an estimated Session Circuit Switched Equivalent (CSE) bitrate. ABRAHAM discloses wherein a data bitrate comprises an estimated Session Circuit Switched Equivalent (CSE) [**maximum bearer rate**] bitrate (paragraph 31, 39). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify VADGAMA to include the teachings of ABRAHAM, since the use of a maximum bearer rate allows various class of services to be established based on priority and device capabilities.

14. Claims 40-44, 48-50, and 63-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over VADGAMA (US 2003/0083069).

Regarding claim 40, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose

determining the user perceived quality Q.sub.u according to:Q.sub.u=.mu.*f(.rho.)where .mu. represents the radio link bitrate, and .rho. represents the utilization factor for the access. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use this equation and variables, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 41, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose determining the user perceived quality according to:Q.sub.u=.mu.*(1-.rho.)where .mu. represents the radio link bitrate, and .rho. represents the utilization factor for the access. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use this equation and variables, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 42, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose wherein .mu. is constant. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use this equation and variables, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 43, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose

wherein .rho. is constant. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use this equation and variables, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 44, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses wherein a function is specific for each type of access network (paragraph 7, 8, 26).

Regarding claim 48, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose wherein .rho. is estimated by the expression: .rho. = 1 - P CCH P TOT ,where P.sub.CHH is the common power, and P.sub.TOT is the total power. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use this equation and variables, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 49, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose wherein P.sub.CHH is estimated from the received pilot power and a factor F.sub.CCH that compensates for the other common channels, and P.sub.TOT is estimated from the received wideband signal strength. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use this equation and variables, since it has been held that discovering an optimum value of a result effective variable

involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 50, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses determining the utilization by measuring at least a received pilot power and a total power from a received wideband signal strength, whereby the utilization is estimated (paragraph 21, 23, 24).

Regarding claim 63, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose wherein said user perceived data quality determining means (14) are configured to determine the user perceived quality according to:.mu.*f(.rho.) It would have been obvious to one having ordinary skill in the art at the time the invention was made to use this equation and variables, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 64, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose said user perceived data quality determining means are configured to determine the user perceived quality according to:.mu.*(1-.rho.) It would have been obvious to one having ordinary skill in the art at the time the invention was made to use this equation and variables, since it has been held that discovering an optimum value of a result

effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 65, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose wherein said utilization determining means are configured to estimate .rho. according to: .rho. = 1 - P CCH P TOT ,where P.sub.CHH is the common power, and P.sub.TOT is the total power. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use this equation and variables, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 66, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose wherein P.sub.CHH is estimated from the received pilot power and a factor F.sub.CCH that compensates for the other common channels, and P.sub.TOT is estimated from the received wideband signal strength. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use this equation and variables, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 67, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. VADGAMA further discloses wherein the utilization is determined by measuring at least a received pilot power and a total power

from a received wideband signal strength, whereby the utilization is estimated (paragraph 21, 23, 24).

15. Claims 53, 55, and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over VADGAMA (US 2003/0083069) in view of AMERGA et al (US 2004/0116110).

Regarding claim 53, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose wherein said accesses utilize different types of radio access technologies. In the same field of endeavor, AMERGA discloses wherein accesses utilize different types of radio access technologies (abstract; paragraph 6-8, 10; inter-rat cell selection). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify VADGAMA to include the teachings of AMERGA, since such a modification would allow a mobile devices capable of services using multiple formats and protocols to select a neighbor cell of varying access technologies based on a predetermined criteria.

Regarding claim 55, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose wherein said accesses belong to different networks. In the same field of endeavor, AMERGA discloses wherein accesses belong to different networks (abstract; paragraph 6-8, 10; inter-rat cell selection). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify VADGAMA to include the teachings of AMERGA, since such a modification would allow a mobile

devices capable of services using multiple formats and protocols to select a neighbor cell of varying access technologies based on a predetermined criteria.

Regarding claim 57, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, VADGAMA does not expressly disclose wherein said accesses belong to different operators. In the same field of endeavor, AMERGA discloses wherein accesses belong to different operators (abstract; paragraph 6-8, 10; inter-rat cell selection). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify VADGAMA to include the teachings of AMERGA, since such a modification would allow a mobile devices capable of services using multiple formats and protocols to select a neighbor cell of varying access technologies based on a predetermined criteria.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ARIEL BALAOING whose telephone number is (571)272-7317. The examiner can normally be reached on Monday-Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, V. Paul Harper can be reached on (571) 272-7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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